

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)
2. (Currently Amended) The printing plate precursor of claim + 16, wherein crosslinking reactions of the crosslinkable polymer are independent of crosslinking actions of the thermally active crosslinking metal salt.
3. (Currently Amended) The printing plate precursor of claim + 16, wherein crosslinking reactions of the crosslinkable polymer are interdependent on crosslinking actions of the thermally active crosslinking metal salt.
4. (Currently Amended) The printing plate precursor of claim + 11, wherein the crosslinkable polymer comprises a polymer derived from an ethylenically unsaturated monomer.
5. (Currently Amended) The printing plate precursor of claim + 11, wherein the crosslinkable polymer comprises a polymer derived from at least one ethylenically unsaturated monomer selected from the group consisting of (meth)acrylic acid, butyl (meth)acrylate, cyclohexyl (meth)acrylate, ethylhexyl (meth)acrylate, benzyl (meth)acrylate, furfuryl (meth)acrylate, ethoxyethyl (meth)acrylate, tricyclodecanyloxy (meth)acrylate, nonylphenyloxyethyl (meth)acrylate, hexanediol (meth)acrylate, 1,3-dioxolane (meth)acrylate, hexanediol di(meth)acrylate, butanediol di(meth)acrylate, neopentyl glycol di(meth)acrylate, polyethylene glycol di(meth)acrylate, isobornyl(meth)acrylate, tricyclodecanedimethylool di(meth)acrylate, tripropylene glycol di(meth)acrylate, bisphenol-A di(meth)acrylate, pentaerythritol tri(meth)acrylate,

dipentaerythritol hexa(meth)acrylate, dipentaerythritol caprolactone adduct hexa(meth)acrylate, trimethylolpropane tri(meth)acrylate, trimethylolpropane propylene oxide adduct tri(meth)acrylate, polyoxyethylated bisphenol-A di(meth)acrylate, polyester (meth)acrylate, polyurethane (meth)acrylate, and acetoacetoxyethyl (meth)acrylate.

6. (Currently Amended) The printing plate precursor of claim + 11, wherein the crosslinkable polymer comprises at least one of a poly (meth) acrylic acid and a saccharide.
7. (Currently Amended) The printing plate precursor of claim + 11, wherein the crosslinkable polymer comprises at least one of a poly (meth)acrylic acid and chitosan.
8. (Currently Amended) The printing plate precursor of claim + 11, wherein the thermally active crosslinking metal salt is selected from at least one of a the following groups: metal salt salts of sulfamide, sulfanylamide, acetosulfamine, sulfathiazole, sulfadiazine, sulfamerazine, sulfamethoxazole, sulfamethazine, sulfaisoxazole, homosulfamine, sulfisomidine, sulfaguanidine, sulfamethizole, sulfapyridine, phthalisosulfathiazole, succinylsulfathiazole, amino-mercapto-thiadiazole, benzothiazole, benzimidazole, fatty acids, and complexed metal salts.
9. (Cancelled)
10. (Currently Amended) The printing plate precursor of claim + 11, wherein the overcoat layer comprises ~~at least one aqueous-soluble organic polymer~~, at least one saccharide and ~~an infrared-absorbing dye~~.

11. (Previously Presented) A printing plate precursor comprising a substrate having coated thereon in the following order:
 - (a) a hydrophilic layer comprising a mixture of a crosslinkable polymer and a thermally active crosslinking metal salt, and
 - (b) an overcoat elutable in aqueous media,
the hydrophilic layer capable of becoming less hydrophilic upon exposure to radiation that effects crosslinking in the layer,
wherein the overcoat layer comprises an aqueous-soluble organic polymer, chitosan and an infrared-absorbing dye.
12. (Currently Amended) The printing plate precursor of claim 9 11, wherein the infrared-absorbing dye is an aqueous-soluble infrared-absorbing dye.
13. (Currently Amended) The printing plate precursor of claim 10 16 wherein the infrared-absorbing infrared radiation-sensitive dye is an aqueous-soluble infrared-absorbing dye.
14. (Currently Amended) The printing plate precursor of claim 4 11, wherein the substrate is a flat sheet, a sleeve or a printing cylinder.
15. (Cancelled)
16. (Original) A heat-sensitive composition comprising:
 - (a) a crosslinkable hydrophilic polymer;
 - (b) a thermally active crosslinking metal salt;
 - (c) an infrared radiation-sensitive dye that is soluble in a solvent, the solvent being at least one of water and a water-miscible organic solvent, the infrared-sensitive dye having maximum absorption at wavelengths greater than 700 nm as measured in the solvent.

17. (Original) The composition of claim 16, wherein the crosslinkable hydrophilic polymer is selected from at least one of the following classes:
 - (a) thermosetting phenolic resins,
 - (b) thermoset polyimide resins,
 - (c) thermoset epoxides or epoxy resins,
 - (d) thermoset polyester resins,
 - (e) thermoset polyurethanes,
 - (f) thermoset urea resins,
 - (g) thermoset melamine resins,
 - (h) thermoset furan resins, and
 - (i) thermoset vinyl ester resins.
18. (Original) The composition of claim 16, wherein the crosslinkable hydrophilic polymer comprises a polymer derived from an ethylenically unsaturated monomer.
19. (Original) The composition of claim 16, wherein the crosslinkable polymer comprises a polymer derived from at least one ethylenically unsaturated monomer selected from the group consisting of (meth)acrylic acid, butyl (meth)acrylate, cyclohexyl (meth)acrylate, ethylhexyl (meth)acrylate, benzyl (meth)acrylate, furfuryl (meth)acrylate, ethoxyethyl (meth)acrylate, tricyclodecanyloxy (meth)acrylate, nonylphenyloxyethyl (meth)acrylate, hexanediol (meth)acrylate, 1,3-dioxolane (meth)acrylate, hexanediol di(meth)acrylate, butanediol di(meth)acrylate, neopentyl glycol di(meth)acrylate, polyethylene glycol di(meth)acrylate, isobornyl(meth)acrylate, tricyclodecanedimethylool di(meth)acrylate, tripropylene glycol di(meth)acrylate, bisphenol-A di(meth)acrylate, pentaerythritol tri(meth)acrylate, dipentaerythritol hexa(meth)acrylate, dipentaerythritol caprolactone adduct hexa(meth)acrylate, trimethylolpropane tri(meth)acrylate, trimethylolpropane propylene oxide adduct tri(meth)acrylate, polyoxyethylated bisphenol-A di(meth)acrylate, polyester (meth)acrylate, polyurethane (meth)acrylate, and acetoacetoxymethyl (meth)acrylate.

20. (Currently Amended) The composition of claim 16, wherein the crosslinkable polymer is comprises at least one of a poly (meth)acrylic acid and a saccharaide.
21. (Currently Amended) The composition of claim 16, wherein the crosslinkable polymer is comprises at least one of polyacrylic acid and chitosan.
22. (Original) The composition of claim 16, wherein the thermally active crosslinking metal salt is selected from at least one of the following groups: metal salts of sulfamide, sulfanylamide, acetosulfamine, sulfathiazole, sulfadiazine, sulfamerazine, sulfamethoxazole, sulfamethazine, sulfaisoxazole, homosulfamine, sulfisomidine, sulfaguanidine, sulfamethizole, sulfapyridine, phthalisosulfathiazole, succinylsulfathiazole, amino-mercapto-thiadiazole, benzothiazole, benzimidazole, fatty acids, and complexed metal salts.
23. (Previously Presented) A heat-sensitive composition comprising:
 - (a) a crosslinkable hydrophilic polymer;
 - (b) a thermally active crosslinking metal salt;
 - (c) an infrared radiation-sensitive dye that is soluble in a solvent, the solvent being at least one of water and a water-miscible organic solvent, the infrared-sensitive dye having maximum absorption at wavelengths greater than 700 nm as measured in the solvent,
wherein the thermally active crosslinking metal salt comprises silver 2-mercapto-5-amino-1,2,4-thiadiazole.
24. (Cancelled)

25. (Currently Amended) A method of imaging comprising the steps of:
- (a) providing the printing plate precursor of claim 1 and a printing plate precursor comprising a substrate having coated thereon:
 - (i) a hydrophilic layer comprising a mixture of a crosslinkable polymer and a thermally active crosslinking metal salt, the hydrophilic layer capable of becoming less hydrophilic upon exposure to radiation that effects crosslinking in the layer; and
 - (ii) an overcoat layer, the overcoat layer comprising an aqueous-soluble organic polymer, chitosan and an infrared-absorbing dye and the overcoat layer elutable in aqueous media; and
 - (b) imagewise exposing said printing plate precursor to provide exposed and unexposed areas in the imaging hydrophilic layer of said printing plate precursor, whereby the exposed areas are rendered less hydrophilic than the unexposed areas by heat provided by the imagewise exposing.
26. (Original) The method of claim 25, wherein said imagewise exposing is carried out using one of an infrared radiation emitting laser and an infrared radiation emitting laser array.
27. (Currently Amended) A method of making a printing plate comprising the steps of:
- (a) providing a printing plate precursor, the precursor comprising a substrate having coated thereon in the following order:(i) — a hydrophilic imaging layer comprising a mixture of a crosslinkable polymer and a thermally active crosslinking metal salt, and (ii) — an overcoat elutable in aqueous media; a heat-sensitive composition comprising:
 - (i) a crosslinkable hydrophilic polymer;
 - (ii) a thermally active crosslinking metal salt;
 - (iii) an infrared radiation-sensitive dye that is soluble in a solvent, the solvent being at least one of water and a water-miscible organic solvent, the

infrared-sensitive dye having maximum absorption at wavelengths greater than 700 nm as measured in the solvent;

- (b) imagewise exposing said printing plate precursor to provide exposed and unexposed areas ~~in the imaging layer of the heat-sensitive composition~~, whereby the exposed areas are rendered less hydrophilic than the unexposed areas by heat provided by the imagewise exposing; and
 - (c) ~~removing the overcoat in the unexposed areas by contacting bringing~~ the printing plate precursor into contact with at least one of lithographic printing ink and fountain solution.
28. (Currently Amended) The method of claim 27, wherein ~~the removing bringing the printing plate precursor into contact~~ is performed on-press.